

t25_altcat_1

(TMLfTRtPTuepK8KoCceu3PKmHCajYWK4fh3)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k9_altcat_1 : \iota \Rightarrow \iota$ be given. Let $k4_altcat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_altcat_1 : \iota \Rightarrow \iota$ be given. Let $u2_altcat_1 : \iota \Rightarrow \iota$ be given. Let $k17_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l2_altcat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_altcat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v6_altcat_1 : \iota \Rightarrow o$ be given. Let $v13_altcat_1 : \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l2_altcat_1 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\ & ((v1_funct_1 (k4_altcat_1 (u1_struct_0 X0) (u1_altcat_1 X0) (\\ & u2_altcat_1 X0) X1 X2 X3)) \wedge ((v1_funct_2 (k4_altcat_1 (u1_struct_0 \\ & X0) (u1_altcat_1 X0) (u2_altcat_1 X0) X1 X2 X3) (k2_zfmisc_1 (k1_altcat_1 \\ & X0 X2 X3) (k1_altcat_1 X0 X1 X2)) (k1_altcat_1 X0 X1 X3)) \wedge (m1_subset_1 \\ & (k4_altcat_1 (u1_struct_0 X0) (u1_altcat_1 X0) (u2_altcat_1 X0) \\ & X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k1_altcat_1 \\ & X0 X2 X3) (k1_altcat_1 X0 X1 X2)) (k1_altcat_1 X0 X1 X3)))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow ((\neg v2_struct_0 (k9_altcat_1 X0)) \wedge \\ & ((v6_altcat_1 (k9_altcat_1 X0)) \wedge ((v13_altcat_1 (k9_altcat_1 \\ & X0)) \wedge (l2_altcat_1 (k9_altcat_1 X0)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v6_altcat_1 X1) \wedge ((v13_altcat_1 X1) \wedge (l2_altcat_1 X1)))) \Rightarrow (\\ & (X1 = k9_altcat_1 X0) \Leftrightarrow ((u1_struct_0 X1 = X0) \wedge (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X1)) \Rightarrow (k1_altcat_1 X1 X2 X2 = k1_tarski (k4_relat_1 \\ & X2)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X3) \wedge \\ & ((v1_funct_2 X3 (k2_zfmisc_1 (k1_tarski X0) (k1_tarski X1)) (k1_tarski \\ & X2)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & (k1_tarski X0) (k1_tarski X1)) (k1_tarski X2)))))) \Rightarrow (X3 = k17_funcop_1 \\ & X0 X1 X2) \end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & (k9_altcat_1 X0))) \Rightarrow (k4_altcat_1 (u1_struct_0 (k9_altcat_1 X0)) \\ & (u1_altcat_1 (k9_altcat_1 X0)) (u2_altcat_1 (k9_altcat_1 X0)) \\ & X1 X1 X1 = k17_funcop_1 (k4_relat_1 X1) (k4_relat_1 X1) (k4_relat_1 \\ & X1))) \end{aligned}$$